REMARKS

Claims 1-3 remain present in this application.

The specification and claims 1-3 have been amended. Reconsideration of the application, as amended, is respectfully requested.

Amendments to the Specification

The specification has been amended to recite that the "memory cells are then refreshed several times using the provided refresh interval 16" (emphasis added). Support for these limitations can be found in originally filed FIG. 1, wherein the self-testing 12 includes the process block 16 that refreshing the DRAM memory cells several times by using the refreshing clock. Accordingly, it is respectfully submitted that no new matter is entered.

Rejection under 35 USC 112

Claims 1-3 stand rejected under 35 USC 112, second paragraph. This rejection is respectfully traversed.

In particular, the Examiner has objected to the phrase "several times" in claim 2. It is noted that this phrase has been removed from claim 2. Although claim 1 now recites a similar limitation, it is noted that this claim recites refreshing the memory cells "a plurality of times." In addition, antecedent basis has been provided elsewhere in the claims as required by the Examiner. For example, in claim 1, "the longest refresh interval" has been changed to --a longest refresh interval-- and, in claim 3, "the definition" has been changed to --a definition--. Accordingly, it is respectfully submitted that all claims particularly point out and distinctly claim the subject matter of the instant invention. Reconsideration and withdrawal of the 35 USC 112, second paragraph rejection are respectfully requested.

Rejection under 35 USC 102(b)

Claims 1-3 stand rejected under 35 USC 102(b) as being unpatentable over Feierbach, U.S. Patent 6,256,703. This rejection is respectfully traversed.

Independent claim 1 recites a method of determining an appropriate refresh interval for a DRAM chip, the method comprising detecting device startup, providing a clock pulse as a refresh interval, writing an original test code to a plurality of memory cells, refreshing the memory cells a plurality of times by using the refresh interval, comparing saved test code with the original test code, to determine an effectiveness of the refresh interval, modifying the refresh interval and repeating the above steps, determining a longest refresh interval as a result of the self-testing procedure and using the appropriate refresh interval, defined by the longest refresh interval, to refresh the DRAM.

Feierbach dose not teach, disclose or suggest "refreshing the memory cells a plurality of times by using the refresh interval". In fact, Feierbach only discloses the DRAM's data pins during a subsequent read operation following *a refresh cycle.* Feierbach, however, fails to disclose refreshing the DRAM cells *a plurality of times* by using a refresh clock. Feierbach's method of using a refresh cycle to determine a refresh period can only obtain a rough refresh period but cannot avoid the variable retention time problem wherein the data retention time of the memory cells changes with each refresh. In the present application, refreshing memory cells a plurality of times avoids the variable retention time problem and yields a maximum and safe retention time. The difference between the prior art utilized by the Examiner and the present application is that the present application uses more than one refresh cycle to detect the real refresh period of the DRAM memory cell for solving the variable retention time problem. Thus,

Feierbach fails to teach or suggest refreshing the DRAM memory cells a plurality of times at a refresh clock.

Accordingly, it is respectfully submitted that the prior art utilized by the Examiner fails to teach or suggest the method of independent claim 1 and its dependent claims. Reconsideration and withdrawal of the 35 USC 102(b) rejection are respectfully requested.

Conclusion

Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

Because the additional prior art cited by the Examiner has been included merely to show the state of the prior art and has not been utilized to reject the claims, no further comments concerning these documents are considered necessary at this time.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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